

New American Muscoid Diptera¹ (Sarcophagidae, Tachinidae)

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The new forms herein described were received for study from several sources as mentioned below and also include some material from my collection. Types of new species based upon the latter are retained and the remainder are returned to the Snow Collection, University of Kansas and to the U. S. National Museum.

Phytodes inconismus, n. sp.

Similar to *P. hirculus* (genotype) but readily distinguished by the shining black pollenless abdomen and the wholly black antennae.

Male. Head thinly grayish to brown pollinose on black background; broad cheek groove red, this color extending upwards on inner part of parafacial to base of antennae; front strongly produced forward in profile and at vertex 0.38 of head width; frontal bristles stopping at antennal base; ocellars proclinate; verticals and orbitals two pairs; antennae unusually small, about one-fourth as long as face, apical segments subequal; arista short, micro pubescent; subbulbous near base; parafacial with a row of bristles extending obliquely downward from inner upper extremity to near lower level of eye and with scattered black hairs outside of latter; cheek equal or exceeding eye height; narrow epistoma produced downward and receding; proboscis short; palpus blackish, short and stoutish.

Thorax and scutellum black, notum with thin subopaque greenish gray pollen, vittae not defined; three post dorsocentral and three sternopleural bristles; prescutellars differentiated; postnotal slope bare; scutellum with three lateral and a small or hairlike apical pair, discals barely differentiated. Wing with a light uniform tawny tinge; first vein bare third setulose almost to small cross vein; first posterior cell closed, petiole reaching

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costa a little before wing tip and a trifle shorter than last section of fourth vein; hind cross vein about midway, last section of fifth vein less than one-half length of preceding section; costal spine long; calypters rather small and narrow. Legs black, weakly bristled; claws and pulvilli shorter than apical segment.

Abdomen long ovate, hairs on upper surface appressed; one or two median marginal bristles on second segment and a marginal row on each of last two; sternites exposed; hypopygium black, retracted, forceps thin and slightly bowed in profile, rather broad at base, tapered distally with prongs separated on apical fourth; lobes of fifth sternite small and retracted.

Female. Head and thorax more densely pollinose, palpus usually paler, last three abdominal segments often subpollinose on basal margin; otherwise as in male.

Length, 5.5–7 mm.

Holotype male and *allotype* female, del Maiz, San Luis Potosi, MEX., 4700 ft., Aug. 22–23, 1954, Univ. Kans. Mex. Expedition in the Snow Collection, Univ. of Kansas; *Paratypes*, 6 males and 4 females, same data as type and 2 males, "Valles, Mex., Aug. 9, 1930."

BAROMYIA n. gen.

A minute fly with cephalic characters approaching those of *Proctotharosia* and wing venation similar to *Gymnophania* but differing from both in having a longer, more slender, subtubular abdomen.

Female head wider than high, frontal profile equal to facial, antennal axis at or slightly above eye middle and barely longer than vibrissal which is close to ventral margin of head; clypeus deeply depressed widened downward, short epistoma full width and gently bowed forward from clypeal plane; faciale almost vertical with one or two bristly hairs on lower extremity; vibrissae long, decussate, on oral margin; frontals short, rather weak, in a single row extending two bristles beneath antennal base; two proclinate and one reclinate orbital and two vertical pairs; proclinate ocellars small but distinct; antenna reaching nearly to epistoma, third segment widened from base to broadly

rounded apex and hardly one-half longer than second, first segment very short; arista a little longer than antenna, thickened near base thence slender and micro pubescent to tip, basal segments short; bare parafacial narrow above middle becoming linear below; eye bare, not quite reaching vibrissal level; proboscis short, labella fleshy; palpus rather short, spatulate; cheek about one-sixth eye height. Thoracic chaetotaxy poorly developed, only the middle supraalar, hindmost postalar and the single lateral scutellar approach macrochaetal size; prescutellars and outer presutural differentiated; dorsocentral 2, 3 (barely larger than surrounding hairs); humeral 3-4; sternopleural 2; hypopleural row distinct, pteropleural absent; postscutellum very prominent; propleuron bare; postnotal slope setose along attached edge of calypter. Legs stoutish, weakly bristled; fore tarsus longer than corresponding tibia; claws and pulvilli shorter than apical tarsal segment. Wing extending about to tip of abdomen; third vein with two minute hairs near base; fourth vein only slightly curved beyond middle or without a defined cubitulus and reaching costa a trifle beyond extreme wing tip leaving first posterior cell open; costa broken near apex of subcostal vein, spine absent; calypters well developed. Abdomen widest on basal third thence tapering to a narrow truncate tip; anal segment much shorter than preceding ones and all segments destitute of macrochaetae; sternites covered.

Genotype. *Baromyia mitis*, n. sp.

Baromyia mitis, n. sp.

Female. Front uniformly broad from antennal base to vertex, latter 0.37 of head width; frontalia red, widened before ocelli and extending on either side of triangle to vertex; parafacial gray to subplumbeous, with only a few minute hairs anteriorly which extend to or beneath lowermost frontal, antenna reddish to arista thence black to apex; arista reddish on thickened base, black beyond; parafacial and cheek gray pollinose, latter sparsely black setose; palpus brownish to almost black.

Thorax brownish in ground color, notum lightly dusted with opaque gray pollen, not vittate, pleura subshining; scutellum concolorous with notum; halteres pale yellow, rather short and

strongly enlarged at tip. Legs black, femora moderately thickened; tarsi beset above with a vestiture of suberect short black hairs, basal segment short. Wing clear with a slight yellowish tinge apparent anteriorly; veins yellow including costa which bears somewhat longer and denser spinules before break than beyond; calypters more or less infuscated with margin and sometimes middle area of both lobes a little paler.

Abdomen brownish black in ground color with narrow hind edge of last three segments pallid and upper surface of each (in well preserved specimens) showing thin gray pollen at sides and forming a pollinose median vitta when viewed in a flat rare angle; anal cerci forceps like; genitalia retracted.

Length, 1.75–2 mm.

Holotype female, Kerrville, TEXAS, June 16, 1953 (L. J. Bottimer) in the U. S. National Museum. *Paratypes*, 3 females, same data as type.

***Parepalpus labeosus*, n. sp.**

Much darker in general aspect than *P. flavidus* Coq. (*ger* type), from which it differs further in having a red abdomen, marked with a distinct but interrupted black median vitta; wings and calypters distinctly infuscated, etc.

Male. Head densely yellow pollinose, parafrontal darker, clothed with longish black hairs outside and inside main frontal row, which is doubled anteriorly with about three bristles beneath antennal base; vertex 0.32 of head width; verticals two pairs, inner decussate; ocellars absent; frontalia red, narrower than parafrontal; antenna yellow to base of third segment, latter black about one-third longer than second and strongly convex on front edge; arista black, thickened on basal two-fifths, middle segment moderately elongated; parafacial fully one-half clypeal width, sparsely clothed with intermixed pale and black hairs; faciale flattened with three or four bristles next to vibrissae; latter well above the nasutely produced epistoma; cheek slightly over three-fifths eye height, beset with long pale hairs; proboscis a little over head height; palpus papilliform, bearing several black setae of unequal length; eye bare; back of head clothed with pale yellowish pile.

Thorax black with moderately dense greenish gray pollen, mesonotum marked with four narrow dark vittae, outer one interrupted at suture and stopping well before base of scutellum; latter wholly reddish and lightly sprinkled with white pollen. Chaetotaxy: acrostichal 3, 3; dorsocentral 3, 3; intraalar 3; supraalar 3; presutural 2; posthumeral 2; humeral 4-6; postalar 3; sternopleural 3; pteropleural 2 (as large as sternopleural); scutellum with 2 lateral, 1 decussate apical, 1 preapical and 6-8 discal pairs, besides numerous erect bristly hairs on basal half; prosternum and postnotal slope bare; propleuron black setose. Legs yellow, rather long and slender, well bristled; yellow black-tipped claws subequal to length of last tarsal segment. Wing uniformly fuscous throughout; first posterior cell open well before wing tip; hind cross vein oblique, joining fourth much nearer to cubitulus than small cross vein; costal spine vestigial; epaulet red, subepaulet pale yellowish; calypter reddish brown.

Abdomen short ovate, wider than thorax and practically pollenless on upper surface which bears a vestiture of erect fine black hairs; one pair of median marginals and discals on second segment, a complete marginal row and one pair of discals on third; anal segment with several irregular rows of discal on apical half above besides a row of weaker marginals; hypopygium small and retracted; forceps broader than long, fused nearly to tips which are separated by a small V-shaped excision, hind surface convex and beset with longish wavy black hairs; accessory process yellowish on broad basal part, much narrowed or fingerlike distally; fifth sternite black, lobes hardly divergent along median excision, clothed with fine black hairs; sternites two to four well exposed beset with black hairs and bristles.

Female. Similar to male except for sexual differences; genitalia retracted within anal orifice, terminating in a fleshy or soft-textured bunt tip.

Length, 9.5-10 mm.

Holotype male, Cuernavaca, MEX., 3-22-34 (S. E. Jones). *Allotype* female, "West Slope Cortez Pass, Mex., 9000', 7-13-54, Univ. Kans. Mex. Expedition." *Paratypes*, 2 males and 1 female, same data as allotype, two collected by R. R. Dreisbach

and 1 male, "Cuernavaca, Mor. Mex., 7100', 7-15-54, Univ. Kans. Mex. Expedition."

Plagiomima euethes, n. sp.

Pollen on abdomen disposed in evident crossbands as in *alternata* Ald., from which it differs most obviously in the conformation of the genital forceps.

Male. Front at vertex 0.45 of head width and only slightly wider at antennal base; head pollen subsilvery with a yellowish or slightly golden cast on parafrenal; latter with scattered black setae which continue downward on parafacial; vibrissae on oral margin with only three or four hairs on ridge next above; two pairs of large verticals, proclinate orbitals and preverticals; ocellars divaricate, proclinate; two frontal bristles beneath antennal base; cheek bare about one-third eye height; proximal antennal segments red, third wholly black, stout, a trifle over twice length of second; arista bare, short, thickened nearly to tip, second segment about twice longer than wide; haustellum slender, nearly two-thirds head height, labella small; palpus yellow, slender to tip; occiput cinereous, rather thinly clothed with short pale hairs.

Thorax and scutellum black gray pollinose, notum marked with four vittae before suture and five behind. Chaetotaxy: acrostichal 3, 3; dorsocentral 3, 3; intraalar 3; supraalar 3; precutural 2; postalar 3 (intermediate one very stout); sternopleural 3; pteropleural vestigial; scutellum with 3 lateral (hindmost weak and middle one reaching to base of third abdominal segment), 1 preapical and 1 much larger decussate apical besides 1 discal pair behind middle with erect bristly hairs in front of latter; prosternum, propleuron and postnotal slope bare. Legs black, mid tibia with a row of unequal-sized bristles on outer front side; front tibia with two median posterolateral bristles; claws and pulvilli short. Wing gray hyaline; first, third and fifth veins setose; hind cross vein oblique and strongly retracted with last section of fifth vein subequal to preceding; cubitus with a long stump plus fold; costal spine vestigial; calypters opaque white.

Abdomen with gray pollen on last three segments in broad basal bands leaving apical third or more of each shining black; one pair of median marginals on second segment and a marginal row on third; anal segment with a submarginal and marginal row; no discals; hypopygium black, largely retracted in repose; forceps fused, black base subglobose behind thence flattened into a thin reddish bladelike structure which is thin and broadly bowed in profile; sternites covered.

Female. Antennae a little more slender than in male; genitalia retracted not adapted for piercing.

Length, 6.5–8 mm.

Holotype male and *allotype* female, Sedona, ARIZONA, September 13–16, 1955 (G. D. Butler). *Paratypes*: 1 pair, same data as type and 1 male, Flagstaff, Arizona, September 12–16, 1955 (G. D. Butler).

Plagiomima faceta, n. sp.

Aside from its larger build, this species differs from the preceding one mainly as follows:

Male. Head pollen wholly grayish yellow on pale background; vertex 0.47 of head width; red frontalia diverging upwards and much wider than parafrontal above middle; third antennal segment nearly three times longer than second; ocellars divaricate; three proclinate orbitals but middle one weak; parafacial subequal clypeal width, beset with short inconspicuous pale and black setae; cheek two-fifths eye height; haustellum slender, about three-fifth head height. Thoracic chaetotaxy as in preceding species; postnotal slope setose, propleuron bare. Wing pale yellowish costobasally; first and third veins setulose, fifth bare; costal spine subequal to small cross vein. Abdomen with gray pollen extending nearly to hind margin on intermediate segments but stopping at apical third of last leaving apex shining black; fused genital forceps strongly compressed and bladelike straight from base to tip on ventral edge as viewed from side with hind apical margin bowed obliquely forward to a blunt reddish tip; accessory process as wide as forceps but a trifle longer, with apex more broadly rounded and hind margin

sulcate; fifth sternite with a broad median excision, lobes black with longish fine black hairs along inner margin.

Female. Anal segment of abdomen strongly deflexed and without any macrochaetae, polished black on apical half above; genitalia retracted, terminating in a compressed blunt-tipped larvipositor; otherwise similar to male.

Length, male 12 mm; female 10.5 mm.

Holotype male and *allotype* female, Plainview, TEXAS, 9-25-48 (F. A. Cowan).

The species belongs in *Siphoplagiopsis* (type *similis* Townsend), if the latter, based chiefly upon female characters, is accepted as valid.

Phorocera plecta, n. sp.

Close to *P. indivisa* A & W, but the abdomen is more extensively pollinose; the male front is wider and there are decisive differences in the genitalia.

Male. Head bright silvery pollinose becoming opaque on parafrontal; vertex 0.35 of head width; inner verticals and two preverticals stout and reclinate; ocellars long, proclinate, frontal rows widely divergent beneath antennal base and descending to level of arista; latter black, bare, long and slender, with short proximal segments; antenna black, third segment rather broad and over three times length of second; facialia strongly bristled to upper third or more; vibrissae on oral margin; eye pilose; cheek a little over one-fifth eye height; palpus yellow; proboscis short; occiput cinereous, pale-haired.

Thorax and scutellum black, with moderately heavy gray pollen marked with 4-5 changeable vittae on notum; chaetotaxy as in *indivisa*. Legs black; fore tibia with one stout posterolateral and mid tibia with two anterodorsal bristles; claws and pulvilli subequal to length of last tarsal segment. Wing gray hyaline; first posterior cell open well before wing tip; cubitus subrectangular, without a distinct stump or fold; third vein with 3 to 6 setulae near base; costal spine small; calypters white.

Abdomen black with changeable subsilvery pollen on basal half or more of last three segments above; one pair of median

marginal bristles on first and second segments; a marginal row on third and fourth besides a discal row on latter, which is also beset with erect bristly hairs on most of upper surface; hypopygium black, smallish and retracted with tip of anal segment; forceps with a deep groove behind which is densely clothed with a vestiture of pale or whitish hairs. In the undescribed male of *indivisa* the forceps compared with the present species, are broadly expanded basally, flattened behind and thickly clothed with soft short black hairs.

Female. Front at vertex 0.36 of head width gradually diverging forward into facial angle; two pairs of proclinate orbitals; outer verticals differentiated; abdomen with heavier pollen and anal segment more narrowed apically than in male; claws and pulvilli shorter than last tarsal segment.

Length, 6.5–8 mm.

Holotype male and *allotype* female, Brown's Cn. Baboquivari Mts. ARIZ., August 19, 1955 (F. G. Werner & G. D. Butler). *Paratypes*, 7 females, "Catalina Mts., Ariz. Htchk. Hwy. Mi. 1, August 22, 1955, G. D. Butler & F. G. Werner."

Phorocera stolidi, n. sp.

Traces to *P. coccyx* (equals *P. heros* Schiner = *Masicera longiuscula* Walker) in Aldrich and Webber's key (Proc. U.S.N.M., 63, 1924: 46, 52), from which it differs chiefly in genital features as listed below.

Male. Vertex 0.27 of head width, front equibroad on upper half thence widening gradually into facial angle; parafrontal yellow pollinose, uniformly clothed with fine black hairs; frontals in a single row, three or four bristles beneath antennal base, two uppermost reclinate and but little shorter than inner vertical; proclinate ocellars strong, usually more or less parallel and reaching beyond mid front; frontalia reddish black, narrower than parafrontal; black antenna as long as face, third segment unusually compressed and widened, nearly five times longer than second, which barely equals one and one-half times length of first segment; bare arista black, uncommonly long, thickened on proximal fourth thence flattened and slender to tip, basal

segments short; clypeus and faciale cinereous, latter with strong infraclinate bristles ascending above level of lowest frontals; vibrissae on oral margin; bare yellowish parafacial becoming grayish below; proboscis short, haustellum subequal length of spatulate yellow palpus; cheek gray pollinose, clothed with fine black hairs, about one-sixth eye height; eye large and thickly long pilose; occiput with a heavy vestiture of yellowish white pile.

Thorax black scutellum with a reddish tinge in ground color, gray pollinose; notum with four narrow dark vittae before suture and five behind. Chaetotaxy: acrostichal 3, 3; dorso-central 3, 4; intraalar 3; supraalar 4; humeral 5-6; post-humeral 3; presutural 2; postalar 2; intrapostalar strong; sternopleural 3; pteropleural 2 (smaller than hindmost sternopleural); scutellum with 3 lateral, 1 wide-spaced appressed discal and 1 strong usually decussate apical pair directed backward. Legs long but not very slender; mid tibia with two strong bristles before middle on outer front side; fore claws and pulvilli subequal combined length of last three tarsal segments. Wing gray hyaline; third vein setulose one-fourth to halfway to small cross vein; cubitulus rectangular without stump or fold; first posterior cell open well before wing tip; costal spine vestigial; calypters translucent white.

Abdomen well tapered towards tip, black with ground color at sides sometimes showing a reddish tinge, last three segments with gray pollen which becomes thinner beyond middle on each and in some views interrupted by a vague dark median vitta; one pair of median marginal bristles on first two segments and a marginal row on last two, besides a submarginal row with numerous shorter discals and erect bristly hairs in front of latter on anal segment; hypopygium blackish, rather small and retracted; fused forceps rather thick in profile and in rear view equibroad to middle thence tapered to a sharp beaklike tip, deeply excavated behind with surface of latter bearing dense yellow hairs, which are replaced on either side near base by a fascicle of longer black hairs directed obliquely forward and terminate in pale wavy tips; fifth sternite with a broad and deep

median excision, lobes black, large and prominent. Female unknown.

Length, 12-14 mm.

Holotype, Amherst, OHIO, August 28, 1930 (H. J. Reinhard).

Paratypes, 2 males, same data as type and 1 male, Blood Mt., Ga., September 20, 1945 (P. W. Fattig) in the U. S. National Museum.

Phorocera noera, n. sp.

Smaller in build than *stolida*, differing chiefly in the structure of the male genitalia as noted below. Other minor differences may be listed as follows:

Male Only. Length 10 mm. Head pollen bright silvery becoming somewhat brassy on parafrontals; third antennal segment nearly equibroad from base to tip and four times longer than second; five narrow notal vittae; median one well defined to base of scutellum; mid tibia with one strong median anterodorsal bristle; fore pulvilli subequal to combined length of last two tarsal segments; abdomen with moderately heavy gray pollen above on basal three-fifths of segments two and three and on basal half of last, remainder of each subshiny black; hypopygium well exposed in repose, second segment reddish; fused forceps strikingly slender from base to acute apex, hind surface grooved with a low but sharp median carina extending outwardly from base about halfway to tip; lateral margin of forceps sparsely clothed with black hairs and base behind more thickly so; fifth sternite deeply incised, lobes widely exposed, bearing some longish black hairs on inner basal margin.

Holotype: Male, "Cuernavaca, MEXICO, August 6, 1942."

This specimen has been in my collection for some time awaiting additional material. The species is included here since it is closely allied to the preceding form.

Euceromasia floridensis, n. sp.

Readily distinguished from *E. solata* by the wholly reddish legs and abdomen and the presence of defined patches of dense

appressed hairs on venter of third abdominal segment in the male.

Male. Front well narrowed above middle, at vertex 0.22 of head width; frontalia deep red, narrower than parafrontal; frontals reclinate above mid front, three bristles beneath antennal base; proclinate ocellars weak or hairlike; verticals (inner) erect, as large as upper frontals; head pollen gray on dark background; parafrontal sparsely setose outside frontal row; bare parafacial moderately narrowed downward; vibrissae large, on oral margin, with bristly hairs on ridge above extending up on about basal third; antennal segments one and two pale reddish yellow, third black, rather slender but less than twice length of second; arista brownish, micro pubescent, thickened on about proximal fourth thence tapered and very slender to tip, both basal segments short; cheek about one-fifth eye height, clothed with black hairs and several bristles near middle, eye bare, rather large and descending to vibrissal level; proboscis short, stoutish, labellum large and fleshy; palpus pale reddish yellow, slightly flattened and beset with short stubby black hairs before apex; occiput flat, grayish pollinose, with a vestiture of rather short sparse pale hairs.

Thorax and scutellum black, gray pollinose, humeri pleura and apex of scutellum with a reddish tinge in ground color; notum marked with four narrow black vittae, outer pair interrupted at suture and inner ones stopping shortly behind; acrostichal 3, 3; dorsocentral 3, 4; intraalar 3; supraalar 3; humeral 3; posthumeral 2; presutural 2; postalar 2; intrapostalar well developed; sternopleural 3 (almost in horizontal row); pteropleural 1 (shorter than hindmost sternopleural); scutellum with 3 lateral, 1 discal and 1 weak non-decussate suberect apical pair; postnotal slope bare. Mid tibia with one good-size bristle on outer front side beyond middle; hind tibia subciliate or with a row of rather widely spaced uneven bristles on outer posterior edge; claws and pulvilli equal to or exceeding length of last tarsal segment. Wing hyaline with a faint yellowish tinge except on hind margin; veins including costa yellow, third with two to four hairs near base; cubitulus broadly rounded, without stump or fold; first posterior cell open shortly before wing tip;

calypters tawny, semitransparent; epaulet and subepaulet reddish.

Abdomen conical, somewhat thickened in profile, last three segments gray pollinose above but thinly so behind middle on two and three; one pair median marginal on basal segments, one median and four or more lateral discals besides a marginal row on third; anal segment with two or more irregular discal, one submarginal and a marginal row; anal orifice narrow and slitlike; sternites covered.

Female. Front at vertex 0.28 of head width, diverging rather strongly downward into facial angle; two proclinate orbitals; outer verticals vestigial; calypters whitish tinged with yellow; claws and pulvilli shorter than apical tarsal segment; one discal and one marginal row of bristles on fourth abdominal segment; genitalia retracted, not adapted for piercing.

Length, 5.75-7 mm.

Holotype male and *allotype* female, "Seabreeze, FLA., Host: *Trichostiba parvula*," in the U. S. National Museum. *Paratypes*, 1 male and 2 females, same data as type; 1 female, Ormond Beach, Florida, 6-5-55 Cat. No. P-248b, ex: *T. parvula*, and 1 female, "College Station, Texas, July 1916."

A New Film

NATURAL ENEMIES OF INSECT PESTS directed by Dr. C. A. Fleschner, Department of Biological Control, Univ. of California. 16 mm. color and sound, 27 minutes. Educational Film Sales Department, University Extension, University of California, Los Angeles 24, Cal. Price: \$195.00. Rental: \$6.00.

This film shows a total of eleven beneficial insects, with extreme close-ups of ladybird beetles feeding on scale insects and mealybugs, of a wasp and fly attacking the grape leaf skeletonizer, and of oviposition and the complete life cycle of the green lacewing. It also shows laboratory testing of the effects of insecticides on beneficial insects, and demonstrates mass production in the insectary of chalcids that are used to control the red scale on citrus.